SUPPLEMENT.

The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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PARYS MOUNTAIN COPPER MINES—No. I.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—The history of the Island of Anglesea and its copper mines are so wonderful, so instructive, and so little known to the general mining public, that the notice of them in your columns will, doubtless, be received with interest and pleasure by many of your readers, and more particularly when the accounts are from the pen of historians whose accuracy and impartiality have never been questioned. Tacitus, the Roman historian, tells us that Suetonius, the tribune, with his army, landed in Anglesea in the reign of Nero, the Roman emperor, about 1800 years ago, or about 100 years after the invasion of England by Julius Cæsar. The description of his landing is thus translated:—"On the shore stood a motley army in close array, and well armed; with women running wildly about in black attire, with disheveled hair, and, like the furies, brandishing their torches; surrounded by the Druids, lifting up their hands to Heaven, pouring forth the most dreadful imprecations. The soldiers stood astonished with the novelty of the sight. Their limbs grew torpid, their bodies remained motionless, resigned to every wound. At length, animated by their leader, and rousing one another, not to be intimidated with a womanly and fanatic band, they displayed their ensigns, overthrew all who opposed them, and flung them into their own fires. After the battle they placed garrisons in the towns, and cut down the groves consecrated to most horrible superstitions, for the Britons held it right to sacrifice on their altars with the blood of their enemies, and to consult the gods by inspection of their entrails." It appears, however, that the Romans only retained possession of the island on this occasion until the death of Nero—about six years,—when the natives threw off the Roman yoke, and the Druids returned, and assumed their authority, their property, and pride, "which they held for 10 years, when Agricola, who was Governor of Britain, crossed the Menai a mile further north than where Suetonious had landed, and the same tragedy was repeated."

This island, formerly designated the "Nursing Mother of Wales," although now nearly denuded of trees, except in some few favoured spots, was at one time so finely wooded that the deep shade of its groves gave it the name of the "Dark Island." The historian further adds that—"Previously to the Roman Invasion it was the residence of the Grand Druid, or Chief Pontiff, and, consequently, of all the learned doctors in that religion," which fact forms a guarantee for the salubrity of the climate, and the fertility and natural beauties of the country. But what is of much more interest to the mining community is the great variety of its minerals, and the astonishing wealth of the copper mines. The latter, as the historian shows, having been extensively worked before the invention of gunpowder, and opened in the first place by the Romans.

Mr. Pennant, the great Welsh authority, in his description of these mines eighty years ago, writes as follows:—"The external aspect of the hill is extremely rude, and rises into enormous rocks of coarse white quartz. The ore is lodged in a basin, or hollow, and has on one side a small lake, on whose waters, distasteful as those of Avernus, no bird is known to alight. The whole aspect of this tract has by the mineral operations assumed a most savage appearance. Suffocating fumes of the burning heaps of copper arise in all parts, and extend their baneful influence for miles around. In the adjacent parts vegetation is nearly destroyed; even the mosses and lichens of the rocks have perished, and nothing seems capable of resisting the fumes but the 'purple melic grass,' which flourishes in abundance. It is thought that the ore had been worked at a very distant period. Vestiges of the ancient operations appear in several parts, which were carried on by trenching, and by heating the rock intensely, then pouring on water, so as to cause them to crack, or scale; thus awkwardly supplying the use of gunpowder. Pieces of charcoal were also found, which prove that wood was made use of for that purpose." The same author remarks—"As the British imported all their brass, it is certain that the Romans were the undertakers of these mines, and sent the ore to Caerlien to be smelted; the place where the famous cake of copper was discovered. They might, likewise, have had a smelting hearth in this island, for a round cake of copper was discovered at Llanvaethlle, a few miles from this place. In the year 1762, Alexander Frazier came into Anglesea in search of mines. He visited Parys Mountain, and called on Sir Nicholas Bayly, grandfather of the late Marquis of Anglesea, and gave him so flattering an account of the prospects as induced him to make a trial, and sink shafts. Ore was discovered, but before any large quantity could be gotten the miners were overpowered with water."

From this statement it appears that the ancient miners had worked as deep as they could for water. "About two years after Sir Nicholas Bayly's trial Messrs. Roe and Co., of Macclesfield, applied to him for a lease of a mine in Carnarvonshire, with which they, very *much against their wish*, were compelled to take a lease of part of the Parys Mountain, and to carry on a level, and make a fair trial. The trial was accordingly made, ore was discovered, but the expense overbalanced the profits. They continued working to great loss, and at length determined to give the affair up, and sent orders accordingly to their agent: who, as a final attempt, divided his men into ten several companies, of three or four in a partnership, and let them sink shafts in various places; and about 800 yards eastward of a place called the "Golden Venture" they came upon a body of mineral in two days, at a depth of only 7 ft. from surface, which proved to be that *east body* of copper which has been worked to such advantage ever since." The day that this discovery was made was March 2, 1768, which has ever since been observed as a festival by the miners. "Soon after this discovery another adventure was begun by the Rev. Mr. Hughes (the present Lord Dinorben family), owner of part of the mountain, in right of his wife, Mary Lewis, of Llysdula, so that the whole of the treasure is the property of Sir N. Bayly and the Rev. Mr. Hughes. The body of copper ore is of unknown extent; the thickness, or width, has been found to be 64 yards. This one contains vast quantities of sulphur, but there are other qualities of copper ore found here, and a vein about 7 yards wide discovered near the west end of the mountain; some is of iron grey, some quite black, the first contains 16 lbs. of copper to the hundredweight, and the latter 40 lbs. This ore has been lately found in form of loose earth, of a dark purplish colour, and the best of it has produced better than 8 in 20. The beds of copper piled for burning are of vast extent, some containing 400 tons of ore, and others 2000 tons. But a far richer produce of copper is discovered from the water lodged in the bottom of the bed of ore, which is highly saturated with this precious metal; this is drawn up either by means of whimsies or windmills to the surface, and then distributed into chambers of rectangular pits of various lengths and breadths, and about 6 ft. deep, in which immense quantities of old iron are immersed. The copper thus procured differs little from native copper, and is prized accordingly. Nature has been profuse in bestowing her mineral favours on this spot, for above the copper ore, and not more than ½ yard beneath the common soil, is a bed of yellowish greasy clay, from 1 to 4 yards thick, containing lead ore, and yielding from 600 to 1000 lbs. of lead per ton, and 1 ton of the metal yields not less than 57 ozs. of silver." This place has been worked for lead ore in very distant times; in the bottom of the pool was found an ancient smelting-hearth, of gritstone. About 1500 persons are employed at these works, who, with their families, are supposed to make 8000 persons getting their bread from these mines. About 80 years later the Rev. Mr. Bingley, in describing these works, remarks—"Having ascended to the top, I found myself standing on the verge of a vast and tremendous chasm. I stepped on one of the stages suspended over the edge of the steep, and the prospect was dreadful. The multitudes of men at work, apparently in the most perilous situation, was most exciting. I left this situation, and followed the road that leads into the mine. My astonishment was here again excited; the roofs of the works had in many places fallen in, and left some of the rudest scenes that the imagination can paint, which with the sulphurous fumes from the kilns in which the ore is roasted gave it to me as a perfect counterpart of Virgil's entrance into Tartarus." At this entrance I must bid your readers adieu for the present; and in the hope of finding them safe on my return, I promise to conduct them forward in a future Number.

MONA.

Anglesea, Aug. 18.

MINING IN SCOTLAND—VISIT TO THE LOCH FYNE MINES.

[EXTRACTS FROM A GEOLOGIST'S NOTE-BOOK.]—No. II.

About three miles to the south of Ardrishaig are the lead and copper mines of Inverneil, the property of Captain Campbell, and now leased to the Argyle Mining Company (Limited), which commenced operations at Martinmas last, with a capital of 20,000*l*. Thither we directed our steps, with the view of adding to our knowledge of the geological features of the district, and after a pleasant walk along the Loch Fyne shore, on diverging to the right we were guided to the workings by the appearance of broken ground on a hill side. On our way from Ardrishaig we had noticed a quarry in quartzite for road metal, and crossed several strong north-east trap dykes, which, as formerly hinted, have remarkably affected the slaty rocks with which they are associated. These dykes, or elvan courses, consist of greenstone, the Cornish miner's blue elvan, red elvan (felstone) appearing more to the southward. Examples of the metamorphic effect of trap are common enough in Scotland, and if the advocates of the now all but exploded Neptunist doctrine, who occasionally figure in the columns of the *Mining Journal*, would take a look even at this locality, which does not afford the very best illustrations of igneous action, they might be inclined to modify their views. In reference to phenomena in the neighbourhood of not a few trap intrusions, we may digress so far as to remark that, while alterations in the colour and texture of contiguous rocks cannot escape the notice of any ordinary observer, the columnar form, in some instances superinduced, is rather remarkable. This particular structure appears to be the result of great pressure, and an accompanying retardation of the radiation or conduction of heat, and in the case of coal, when exhibiting a columnar shape, it is at the same time converted into a natural coke: and of this the Glasgow Geological Society's museum contains a very fine specimen. It is evident that, while the columnar, or rather prismatic, structure of certain rocks is allied to that assumed by some crystalline minerals by virtue of their chemical composition, it must be attributed to peculiarities in the position of the rock affecting its refrigeration after it had been reduced to a plastic or semi-fluid state. These columns appear to be most perfectly developed where the cooling process has been greatly retarded; and when occupying a position at the present land surface it may be held that, although no superincumbent mass of rock appears to have prevented the rapid radiation of heat, the pressure of water has been the cause; and the circumstance that that fluid is a worse conductor of heat than land would contribute more decidedly to the result in question than the presence of solid matter. We observed a tendency to the columnar form in a blue killas adjoining a greenstone dyke underground in the neighbourhood of Ardrishaig. The Inverneil property extends to between 2000 and 3000 acres, and the 600 acres leased to the Argyle Mining Company embrace a hill about 300 feet high, with a somewhat oval base, and rising gradually by a succession of slopes and terraces, except on the north, where it is rather abruptly bounded by a deep ravine, with a stream brawling through its rocky course. The strata consist of alternate beds of various schists and quartzite, each maintaining its distinctive characteristics rather decidedly, the former being argillaceous, talcose, and micaceous, and the latter occasionally containing scales of white mica. A somewhat peculiar variety of these hypozoic rocks makes its appearance here. It resembles some of the newer sandstones; but, while its base is siliceous, it appears to contain a considerable proportion of felspar, and exhibits a laminated structure, being also slightly micaceous. We have observed the same variety of rock in other parts of Argyleshire, and know not whether to class it as a variety of quartzite or as an arenaceous schist. It is probably quartzite in one of its phases, less affected by the metamorphic influence of heat than in its normal condition; it is here called sandstone. An inconsiderable band of chloritic gneiss also crosses the grounds from north to south.

The dip of the strata is somewhat irregular, but no elvan courses make their appearance, except in the bottom of the ravine, where a narrow ridge of quartzite and schist stands up abruptly on the back of a red felstone dyke, injected into the uplifted strata in all directions, while several other dykes cross the stream. Visiting the lock-up, we feast our eyes on glittering heaps of lead and yellow and purple copper, the matrix being invariably white quartz, with portions of the schist and quartzite on the walls of the lode impregnated with the metals. Mundic appears in considerable quantities among the rubbish, and this is reputed no unfavourable sign. From a level in the ravine we procured some very pretty specimens of pearl spar encrusted on quartz, and dotted over with metallic crystals. In another adit we found indications of lime in the form of stalactites and stalagmites on the quartz rock, but no limestone appears on the grounds. It is not our object to enter into details regarding the mining operations undertaken on these and neighbouring properties, neither is it to write up this mine or that, but merely to indicate the fact, which may be interesting to some of the readers of the Journal, that a fresh start appears to have been made in the development of the mineral resources of a portion of Scotland, which have attracted attention hundreds of years ago; for in this neighbourhood, as well as in other parts of Argyleshire, there are several grass-covered ruins, apparently of huts and other erections for the convenience of certain primitive miners, who have left traces of their doings in numerous heaps of iron dross that appears to have been manufactured from ore procured in the vicinity, and converted at once into malleable iron by charcoal fires. We may state, however, that about twenty distinct lodes traverse the sett, varying from 3 in. to 3 ft. wide. Those chiefly worked hitherto have a strike nearly north and south, the principal ore being lead, containing a considerable percentage of silver, with yellow and purple copper ore and mundic. On the east and west lodes, of which there are many, operations have as yet been more limited; but from these, also, we saw some splendid samples of both copper and lead, the latter apparently still more argentiferous than the ore from the north and south lodes. There are at present about 30 men employed on tutwork, mostly miners from Cornwall and other parts of England, with a few belonging to Wales and Scotland. These mines are being worked at present chiefly with the view of tracing and opening up the various lodes, so that future operations may be conducted with the greater likelihood of success in a commercial point of view. The practical management is in the able hands of Mr. James Martin, a gentleman whose courtesy and intelligence rendered our visit to these mines both agreeable and instructive. There are some indications of iron in the course of a small stream to the westward, where a band of chalybite, a monocarbonate of the peroxide, makes its appearance; and, upon the whole, after reflection, on returning to our inn, we felt inclined to think that, although we had not seen much that was novel in a geological or mineralogical point of view, we had seen enough to warrant us in congratulating all parties concerned in these mines on the care, economy, and skill applied to their development; and we hope that the rich parcel of metal already stored is an earnest of a more abundant harvest. The process of mining is necessarily a slow one, and it is only when the shafts and levels have reached a considerable depth, and particularly at the intersections of the various cross and caunter lodes that, as a general rule, the most remunerative results can be expected.

T. S.

ON METEORIC STONES.

It seems as great a mystery as the meteoric stones themselves that these substances are said to fall from the moon, and that this decision should be considered satisfactory, although an assertion at variance with all known laws of gravitation and attraction. We know that gases, united by the power of electricity, have combined into solids, and solids have been resolved or dissolved into gases; but whence come the wandering agents in space to furnish the gases that are to visit the earth as solid metal or stone; for even gases, volatile though they be, are confined by centripetal attraction as well as fluids? Does it not seem a more probable solution of the mystery of this freak of Nature to imagine that so-called "meteoric" substances may be formed by the strong current of electricity (which is recognised as always present on these occasions) acting on the surrounding earths in the very spot where it alights? Aerolites are found in cavities where there were no cavities before. What has become of the material they have displaced if they be not combined themselves of it, and contracted into the metal composing the so-called aërolite? It is well known that iron is found in masses, crystallised, in the earth, called meteoric iron, but which may be supposed to have been brought into that state there from the ore by meteoric electricity or lightning. In a paper communicated to the Royal Society, which speaks of the fall of a metallic mass in India, it is said that "the officer of the district immediately repaired to the place where it was said the body fell; and, having found the place to be still hot, he caused it to be dug. He found the heat kept increasing until they reached a lump of iron violently hot." If these bodies had travelled from the moon 239,952 miles to visit us, would not the long journey have cooled the ardency of their nature ere they arrived? When these voyagers set out they cannot even have been subjected to friction or resistance from the atmosphere, as sages say the moon has none.

One argument advanced by those who consider that "meteoric stones" come from another sphere is, that no other bodies precisely similar in composition are found in the earth. In these "aërolites" the nickel is united with iron, whereas, under all other circumstances, the metal with which it is mixed in mines or elsewhere is copper; this only shows, however, that for the production of a meteoric stone, iron and nickel must be in juxtaposition, and the combination effected by electricity. The iron in the aërolite is crystallised differently from what it is in the known ores, or in foundries, and is besides magnetic. But the difference of the crystallisation and the magnetic state may depend on the great force of the stream of meteoric electricity or lightning, so far beyond what can be produced either by fire or electric apparatus; and it is known that iron may be made magnetic by being struck with great force and at a peculiar angle, though common hammering produces no such effect.

Would it not be possible to make some experiments, with powerful electric apparatus, on the contiguous soil where they are found, and see if similar results could be produced? It must be acknowledged that this is trying to solve a mystery by calling in the aid of as great a mystery. No person knows the nature of electricity, or when it acts upon a body, whether it is by being plus or minus in it. This is ever the case in all human aspirings after knowledge. Trace cause and effect as intricately as we may, do we advance one step nearer to the great first cause? If after all the years that have passed, and all the investigations of this admired phenomenon, we have arrived at no better explanation than that propounded by M. Haidinger at the last scientific meeting of the British Association, then bad is the best, and this may have some chance.

AEROLITES.—The nature of these remarkable bodies, their formation, and their appearance in our atmosphere, have been deeply considered by M. Haidinger, the eminent geologist of Vienna, whose observations thereon have been communicated to the French Academy, in a paper containing the following *resumé* of his propositions:—

By the Almighty word of God there sprang from nothing into space matter in a state of extreme subdivision, endowed with all the manifold properties which are the object of our daily researches. The worlds, or celestial bodies, composed of cosmical dust next appeared. The pressure of the exterior layers over the interior soon determined an elevation of temperature, and then began the reaction of the interior of these bodies against the exterior surface. A solid crust was formed while the interior of the mass was solidifying. The difference of the exterior and interior tensions and dilatations led to an explosion of some of the bodies, by which fragments were projected into space among the fixed stars. One of these fragments in its course met with the atmosphere of the earth, and by its cosmical force resists it, and thus developes heat and light, and the exterior of the aërolite is soon melted and rounded by the action of the heated air, and silence is broken up by its entrance into our atmosphere, accompanied by the well-known meteoric phenomena. The aërolite falls to earth by virtue of its gravity, and is so much the hotter as the matter of which it is formed is a good conductor of heat.—August, 1861.

Almost as satisfactory as this is the account in the "Vestiges of Creation:"

"Whatever may be the real origin of aërolites, they are looked upon by common consent as foreign to the earth; their physical constitution is completely different from any known minerals; but what is exceedingly remarkable, and strengthens the argument

that all members of the solar system, and perhaps other systems, have a similar constitution, no new elements are found in these bodies; they contain the ordinary materials of the earth, but associated in a manner altogether new, and unlike anything known in terrestrial mineralogy."—Note to "Vestiges of Creation."

The deduction in this note seems not allowable, or, rather, arguing backwards. It has been asserted that some "members of the solar system" are not surrounded by the same atmospheric emanatations as we, and that some have no aqueous combination of oxygen and hydrogen to wash themselves in, and that many of the planets have different densities; therefore, a more fair inference it is that their elementary composition is not the same as ours, and that these bodies, which "contain the ordinary materials of our earth," are of our generation, and will be acknowledged to be so by the next generation.

Note from the "Gallery of Nature:"—

"In one of the rooms of the British Museum there is a specimen of a large mass of malleable iron, mixed with nickel, which was found, and still remains, on the plain of Otumba, in the district of Buenos Ayres. The specimen alone weighs 1400 lbs., and the weight of the whole mass, which lies half-buried in the ground, is computed at 13 tons! In the province of Brazil another block has been discovered of 6 tons. Considering the situation of these masses, and the details of their chemical analysis, the presumption is clearly warranted that they owe their origin to the same causes which have formed the aërolites."

The account of the formation and finding of fulgurites illustrates this subject:—

When a flash of lightning falls upon sand its path below the surface is often marked by a fulgurite, a tube composed of sand vitrified by the action of the lightning. It is winding in its form, often throws out lateral branches or spurs, and contracts in size towards the lower extremity, which usually terminates at a spring of water. These tubes are generally hollow, the interior surface being coated with brilliant glass. Their diameters vary from four hundredths of an inch to 3¼ in., and the thickness of their sides from one-fiftieth of an inch to 1 inch; the branches differ in length from ¾ in. to 1 ft., but the main tube often extends to the depth of many yards; one was discovered at Paderborn 40 yards long.

Artificial fulgurites have been obtained by passing powerful electric sparks through powdered glass and a mixture of sand and salt; tubes have been thus formed 1 inch long, one-tenth of an inch in thickness, and inner diameter the twenty-fifth of an inch. From a consideration of these facts, that artificial fulgurities may be made by artificial electricity; that fulgurites in the earth are produced by meteoric electricity, lightning, and the known power of separating metals from their earths or ores of electricity, we may fairly adopt the analogy and entertain the idea that the metallic compounds called aërolites may be produced by meteoric electricity when it meets with suitable materials in the earth where it descends. B.

AUSTRALIAN MINES.

KAPUNDA.—June 21: The mining and smelting operations are proceeding satisfactorily. The manager reports that, in driving the 60 fm. level west of the Buhl shaft, the miners had got into fine orey ground, and that, after passing through several strings of malleable copper, had just cut into good rich ore. The April ores were 181 tons, of 16¾ per cent., average produce equal to 30 tons of pure copper, and the yield for May was estimated at about 280 tons, of unproved quality; 38 tons of copper had been forwarded to Melbourne for shipment, per *Kent*, to London.

YUDANAMUTANA COPPER.—Capt. Terrell (June 9) states:—"I only arrived here on the 31st ult., and before any of the drays or stores were up, so that, of necessity, my examination was hurried, and the following report brief.—Section No. 135A.: The lode in this mine shows for about 150 yards on the surface, varying from 1 to 20 ft. in width, running north and south, and underlying east. The country about the lode is very favourable, being a slatey killas, and great depth may be attained without being inconvenienced by water. Altogether, the section looks very promising, and I believe will make a good mine.—Section No. 135B.: I have sunk down on the lode in this mine about 4 ft. in two different places; the lode is of various widths, getting larger as it goes down, and underlying to the east. The ore is of a rich quality. I think very highly of this mine.—Section No. 141: In this mine we are cutting through a lode, 4 ft. wide, of rich ore, and have already raised 17 tons, of 35 per cent. Yesterday we quarried out a rock, weighing about 5 tons; it is the largest and richest rock of ore I have ever seen. We shall be able to load all the drays now on the road up with ore of rich quality. We have 31 men on this mine.

GREAT NORTHERN COPPER.—The local committee (June 23) state:—"We feel sure it will be gratifying to the directors to hear the favourable prospects of a new discovery in the 10 at the Nuccaleena Mine, the sample from which, sent down, has been assayed, and produces 31⅛ per cent., thereby establishing the fact of a valuable course of ore; it is to be regretted it cannot be made immediately available, through the presence of too much water, but this will now be drawn by the engine next week, and thus allow the mining operations for the development of the mine in depth to be pushed forward with all speed. As regards the progress of operations at the other mines, no great results are yet attained, but on Mr. Bonney's return from his present visit of inspection the committee will be in possession of more detailed information as to his opinion of them." Mr. Bonney reports, under date, Nuccaleena, June 12:—"Capt. Morrison has already communicated the gratifying intelligence of the discovery of a fine course of black ore at the bottom of the 10, said to be from 5 to 9 ft. wide. The whim having been stopped before my arrival the level is now filled with water, but before I leave the engine will be at work, and I shall then have an opportunity of reporting on this discovery from actual observation. I have seen a sample of the ore, and it is evidently of a very rich quality; nearly 2 tons were raised in one day. If this lode goes down, and mining men all agree that it is a kind of ore that is likely to last, the discovery tends to establish the value of the mine."

NORTH RHINE COPPER.—Capt. Barkla, (June 17) states:—"I have the pleasure to inform you that the 60 is now driven about 5 fms. 3 ft. south of Cope's engine-shaft on the course of the main lode. The lode in the end is about 2 ft. wide, and consists of mundic and quartz, with a portion of black ore, but not in sufficient quantity as to save at present. The stratum of ground is good about the lode, and full of small branches impregnated with copper ore; all the branches are falling in with the lode in driving south. North of Cope's engine-shaft, on the main lode, the lode is still in an unsettled state by means of the cross-course. There is ore now in the branches, but of low percentage, and every indication of a large lode north of the above end."

SPRING CREEK COPPER MINE.—The following is extracted from a letter from the agent of the mine, dated Adelaide, June 23, and received by the last mail:—"I should mention that some person has taken out a claim adjoining our section on the opposite side of the creek, and that copper has been found on it; if such is the case, it would confirm what Captain Barkla imagined—that the lode would be found to run under the creek, and might be found again in the opposite section (which belongs to the company). I look upon this as an important and satisfactory matter, as it would confirm the opinion entertained of our having a lode to deal with, and no mere boil of copper.

WORTHING.—June 18: Legg's shaft: Men are engaged putting in bearers and securing the shaft below the 43; the lode in the bottom is 2½ ft. wide, producing occasional stones of yellow ore. The lode in the 43 south is 5 ft. wide, composed of quartz, mundic, capel, and occasional stones of good ore. In the 33 cross-cut we are daily expecting to cut Boundy's lode; there is a deal more water than usual issuing from the end. In the 33 south end the lode is much improved during the past week, and is yielding 3¼ tons of ore per fm. Lean's stope, in the back of this level, is producing 7 tons of ore per fathom; we are putting in stulls, &c., as fast as possible, preparatory to setting more stopes here next month. In Lean's shaft the ground continues rather hard; the lode is 6 in. wide, of fair average ore. Brown's stope, in the back of the 23, continues to yield good coated ore, 5 tons per fm. Phillips's stope, in the back of this level, is producing 7 tons per fathom. The smelting department is progressing favourably. We intend at once to make copper; therefore, we shall send no more regulus away from the mine. Besides the wood on hand, there is being delivered at the works a sufficient quantity for our present use. Since our last we have made a further shipment of 39 tons of regulus, *via* Melbourne. We have now on hand about 30 tons of regulus, and the usual quantity of ore. The mine is going on satisfactorily.

BON ACCORD COPPER.—The committee at Adelaide state that the exploratory operations, suggested not long since and carried on by Elijah Whitford, to the westward of all previous operations on the property, at slight depth, had not resulted in any important discovery or indications. Twelve fathoms of ground were further about to be driven eastward from these workings at a similar depth, which would join the most westward of the workings completed before Whitford began his operations. In case nothing important should arise in passing through the said 12 fms. of ground, all operations on the west side of the property would for the time being be suspended. Operations in accordance with the recommendation not long ago repeated to the board by Capt. John Dalley, of St. Austell (who some years ago, it will be recollected, examined and reported on the property), have been commenced by opening a new shaft on the yellow clay course near the boundary line, to the north-east of all previous workings. Good indications had been recently discovered in the most easterly old workings, which were executed by the parties in possession of the property prior to its purchase by its present owners: and it had been resolved to explore a piece of untried ground between the said workings and the new shaft above mentioned, by driving a 24 fm. level west therefrom, though said piece of unexplored ground, also to drive east at the same level from said new shaft, &c. These operations will not require machinery. The Chairman of the committee, who had just returned from paying a visit to the property, thus writes respecting the above-mentioned indications, &c.:—"There are strong stains of green in the lode, and some loose balls of blue carbonate amongst the attle, but nothing could be more promising than the ground. I note your remarks as to the employment of men, and getting the work done quickly, as you very truly observe that time is money. I can assure you that the committee are equally anxious as the directors to proceed vigorously with the works, but good miners, or men, are not very abundant, but I have little doubt of obtaining the services of as many as can be profitably employed; in fact, I am advised by telegram just now that men have been set to drive the 24 west of new eastern shaft; the ground very favourable." When the driving eastward from Whitford's workings, and the driving westward from the new shaft shall be completed, the whole of the ground lying between the most westerly and the most easterly of all workings commenced on the property prior to the date of the despatches received by the present mail will have been explored at a moderate depth. Capt. Dalley, it may be added, has always based his expectation of a favourable result in workings on the east side of the property.

WHEAL ELLEN.—Advices have been received from Mr. Abraham Scott and the colonial committee to June 23. The following is the report of Capt. Prisk and Mr. Hancock:—"In handing you the report for the past month, we beg to say the principal part of our operations have been at or near Spence's shaft, where we have been cutting ground, fixing timberwork, and making preparations to sink the shaft below the 30 fm. level. The 30 fm. level, north of Spence's shaft, has been driven about 4 fms. on the eastern part of the lode, which is poor; this driving is through a short shoot of poor ground, which we can trace in the level above. As soon as we get through this, there is every reason to believe that the lode will be as good and well defined as it has been; near the breast of the end we have driven a cross-cut west, to cut the upper part of the lode, which is also poor. The lode in the winze in the bottom of the 30, north of Spence's shaft, is about 4 ft. wide, of gossan and grey copper ore, and will yield of the latter about 2 tons of 20 per cent. to the fathom. The lode in the stopes in the back of the 30, north of Spence's shaft, is 2½ ft. wide, of gossan and copper ore, and will yield 4 tons of black and red oxide of 20 per cent. to the fathom. The north, or small, shaft has been sunk about 5 fms. through iron gossan, and we are happy to add that in the last 2 fms. we have met with good stones of red oxide. A piece of lode has been taken down in the south end of Squarey's engine-shaft, which has produced some good copper ore. At the blast-furnace the batch of dressed ore has been smelted, and has yielded 7 tons 13 cwts. of pig-lead.

ENGLISH AND AUSTRALIAN COPPER.—The directors have received advices from their manager, dated Adelaide, June 23. There were three furnaces and one refinery at work at Kooringa, and seven furnaces and one refinery at work at the Port works. The stock of coal at the Port works was 588 tons, at Kapunda 1343 tons, and at Kooringa 50 tons, besides 800 tons of wood. The company's operations were proceeding very satisfactorily.

FORTUNE COPPER.—Messrs. W. Jackson and Co., of Great Winchester-street, have received a communication from Mr. L. Samson, dated Fremantle, June 24, of which the following are extracts:—"Operations at the mine continue satisfactory, and Capt. Scott informs me that he has discontinued sinking and driving, in order that the men may dress the ore at surface, which has been accumulating for some time, and from which a large quantity of marketable staff will be obtained. By a report just received, I learn that they have struck another promising lode of ore in the south-west level. I am shipping 144 tons *via* Sydney, bills of lading of which will be forwarded in due course; and by the time the wool ships are leaving, I hope to make a further consignment of a larger quantity."

PORT PHILLIP AND COLONIAL GOLD.—Mr. Bland sends a very satisfactory return of work done at Clunes during May, notwithstanding that it includes six weeks' work, and the last of the separate account sales of alloy. The quantity of quartz crushed for the month was 4294 tons, an average of 715 tons per week: the yield of gold, including 292¼ ozs. of alloy, was 3366 ozs. 15 dwts. 12 grs., or an average of 15 dwts. 12 grs. per ton; the receipts for the same period were 5765*l.* 1s. 4d.; payments, including Melbourne management, 2272*l.* 19s. 4d.—profit, 3492*l.* 2s. This improvement in the yield still keeps up for the month of June, reaching to over 17 dwts. per ton; different portions of the workings vary so much that it is next to impossible to form an estimate with any degree of precision whether the present yield is likely to increase or diminish. I can only say that the mine looks well, and the Clunes Company have every confidence in a continuance of profitable working. The gross receipts amount to 1*l.* 7s. 3d. per ton, and the payments to 10s. 7d.; ditto, less calcining and delivering of quartz and Melbourne management, to 7s. 10d. The account for calcining has nearly ceased, the stone breaking machine being now in regular use.—Mine: The sinking the main shaft has been re-umed, and is now down 386 ft.; the work at this somewhat interferes with the raising of quartz, and we have in consequence occasional stoppages at the stamps for want of material.—Machinery: This is all in good working order, the stone-breaking machine is working fairly. A remittance of 4000*l.* has been received by this mail.

DUN MOUNTAIN COPPER.—The committee and manager (Nelson, New Zealand, June 12) report that the railway from one end to the other is now in good working order, and we have brought down and shipped without any accident 1503 tons of chrome ore since February last. The last 500 tons have been extricated from the new chrome reef, and is of excellent quality. We are arranging with good miners to search for other minerals at their own expense and benefit for three months, which will enable us to explore without cost to the company. We are preparing the firewood branch of business, as well as the town traffic, which we hope will reduce the local expenses. We have no difficulty in obtaining ships for the chrome, nor do we apprehend any in future. Except the cost of the additional screw brakes ordered in Sydney, and the completion of the buildings considered essential to carry on the operations of the company, which buildings will be finished this month, we do not anticipate much more outlay.

SCOTTISH AUSTRALIAN.—June 21: The superintendent at Sydney reports from the Cadiangullong Mine to the 14th, from the smelting works to the 18th, and from the colliery to the 16th of that month.—Cadiangullong Mine: The operations reported at this mine principally consist of sinking engine-shaft, stoping in overburden and in great ore stope, driving east from adit shaft, stoping in the middle stope at surface, sinking a well, &c. The level during the month reported on had been driven 6 fms.: 59 cubic fathoms had been stoped; the well sunk nearly 10 fms., and the engine-shaft, on June 7 had been sunk about 12½ fms., and was being carried down by six men. These workings, therefore, have been carried on to explore and lay open the mine rather for future efficient and economical development than present production, which, both as respects quantity and quality of ore, had been comparatively less than that returned in previous reports. Capt. Holman states:—"We have not yet procured a sufficient staff for dressing the ores to keep pace with the raisings, neither can this be done fully before the engine and crusher are at work, when it will give us an increased supply of water for dressing, and until the ore dressing keeps pace with the raising of ores the estimates in regard to quantity and quality of the copper ores will be somewhat uncertain. The spalling of copper ores has been carried on pretty steadily during the month, and shortly fully 200 tons will be ready for sampling." Mr. Morehead, the superintendent, states that he had spent a week at Cadiangullong, and carefully gone over and inspected with Mr. Christoe, the manager of the smelting works, and Capt. Holman, the various important work in progress. He was making arrangements with the view considerably to increase the number of ore dressers, and adds, "I do not anticipate the whole cost of the machinery when put up and at work will exceed what I expected and spoke of when I was in England."—Smelting Works, &c.: Capt. Christoe reports that a contract had been entered into for the erection of the engine-house and the work commenced, and that the stack and culverts, smelting sheds, tramway, ore roasting, and refining furnaces, and one ore-floor capable of stowing from 500 to 600 tons of ore were already finished. Also assay office, copper store, weigh-bridge, and the workmen's houses. He also observes, "The quantity of ore we hope to smelt when in constant work is 60 tons per week for the two ore furnaces. We have been rather impeded in our endeavours to get the ore carted to the works. Nearly 50 tons have been weighed and sampled, and we hope to have the quantity made up to 200 tons this month."—Good Hope Mine: As regards this mine, Mr. Morehead writes:—"It is most important to have proved the existence of a powerful lode (I here refer to the comparatively deep working in this mine) improving in depth as far as explored, and this is the least we can say of it. I had a good deal of conversation with Capt. Holman in respect to this mine, and have in view its inspection by him. He is very desirous of seeing it, and has evidently bestowed a good deal of thought upon it, as described by Messrs. Barnes and Perry. The probability of picking up the lode, so to speak, in the quarter where it was first opened upon and found so rich—that is, of finding it beyond the slide which there came in—was a subject he discussed with me with great interest, as it is one that has occupied a great deal of my own attention."—The Colliery: The thick seam of coal, on being bored through, was found to be throughout of "first-class quality." The actual sinking of the pits was commenced on June 16, and their completion was not expected to be a matter attended with either difficulty or delay. Mr. Morehead states that all "arrangements connected with this undertaking are proceeding very satisfactorily under the management of Mr. Crondace. It will be seen the appearance of the coal in bulk was most favourable. Mr. Crondace proposes to put down two pits, as the most advantageous way of working the coal, which lies where we are opening upon it, the board will recollect, at a depth of less than 50 feet. Arrangements for the construction of the railway, and for obtaining the necessary Act are in progress."—General Remarks: Mr. Morehead remarks that Capt. Holman "now estimates the work he will get out of the furnaces at a higher figure than he anticipated when he planned them, and speaks very confidently of smelting at a profit ore of lower produce than he then expected to be able to treat." . . . "I feel most anxious, the board will believe, to be able soon to transmit some produce from the establishment, and hope we shall have copper coming down very soon after the arrival of the smelters (from Wales), who I trust are now close at hand. In the meantime it might be well to make enquiries with a view to ascertain the most desirable arrangements that should be made for the sale of our copper. The board's arrangements have been such as to effect the dispatch of everything required from England for the prosecution of these several works with the least practicable delay."

COPPER MINING IN SOUTH AUSTRALIA.

The *South Australia Advertiser* of June 23 gives the following as the latest mining intelligence:—

GREAT NORTHERN (Nuccaleena).—We are glad to learn that a splendid course of black and yellow ore has been cut in this mine, at the 10 fm. level; a sample which was sent to Adelaide for assay yielded 31⅛ per cent. of copper. We hear from another source that there is a marked improvement in the appearance of the mine, and the engine is expected soon to be got to work, when further results may be looked for.

YUDANAMUTANA.—We are informed by Messrs. Gaedechens and Fiveash, members of the committee of the Yudanamutana Mines, that news has reached them last week that at Blinman the first dray of ore was dispatched on June 13, and that by the end of this month 40 tons of rich ore, worth 35 to 40 per cent., would be dispatched. One large block has been found of 5 tons weight, 35 per cent., too heavy to be transported as a whole, but 3 tons of it in one lump will be forwarded to Port Augusta by first dray. The men are housed, and the mine is getting into fine working order. At Yudanamutana large quantities of ore of rich quality have been raised, and are only awaiting the drays, now on their way up with stores, to be forwarded to Port Augusta. The report from the captains of the above two mines is of a highly satisfactory nature.

The mining interest continues to hold out excellent prospects, although the actual quantity of ore exported is as yet comparatively small. But there is no doubt whatever that, as the new mines get more fully into work, the produce will be very great, and the results most beneficial to the colony.

BON ACCORD.—A correspondent, under date Redruth, June 18, says:—"I regret to say that Whitford and his men were not so near the copper as they expected they were when I wrote last, for, to their great dismay, they had not driven far when they found that (a similar case of Columbus at San Salvador) some persons had been there before (either the Antediluvians or other burrowing animals), and driven they do not know how far north. The drive is about 3 fms., which appears to be the width of the lode. I believe the ground is also worked away above and below their 8 fm. level, but how far also remains to be proved. Having found the eastern end of the spent ground, the next thing is to drive north, to see how far those animals have been in this direction. The present party have, of course, to drive through what the miners called attle. Mr. Whitford has been down Jeffrey's eastern shaft, which is 24 fms. deep, from which a level has been extended, I think, some 12 fms. west. Whitford, therefore, expects, by putting a pare of men to drive in the level, to intersect the lode in driving some 2 or 4 fms., when there is every reason to hope he will find the same untouched. It appears that Capt. Jeffery thought or said he had proved all the ground between this and Elder's shaft, as east of the latter he drove a cross-cut some 55 fms.; but it so turns out that he made a mistake in dialling or something, for the yellow clay course, which he said did not exist, is there, and is about 11 fms. wide. Now, how in a distance of some 60 or 70 fms., any miner could make a mistake of 11 fms. seems to baffle the most knowing. And how he should have sunk his eastern shaft about 24 fms. north-east of Dalley's shaft, and driving through so much ground as he did, without seeing the bottom of the latter, is also a mystery to many; but so it was, and perhaps well, for at no other period of the history of the Burra was a change for the better more needed than at the present, for everything is as dull as needs be. I have the pleasure, however, of saying that 16 men are set to work at Bon Accord, and I have every reason to hope that many more will be employed shortly, not only underground, but on the surface, to dress the ore. I think, for the sake of such an enterprising company as that of the said mine, everyone will join me in this hope."—*South Australia Chronicle.*

SCOTTISH AUSTRALIAN.—The new smelting works at the Cadiangullong Copper Mines were tested on the 21st inst., and proved, we extremely regret to say, a failure, in consequence of the unsuitable nature of the material employed in constructing the furnaces. The defect is to be remedied immediately, and for this purpose a large quantity of fire-bricks is to be brought from Campbell's River. Of the extraordinary richness of this mine no stronger proof need be afforded than that, notwithstanding the imperfection in the smelting-works, the yield was such as to surprise some of the old Cornish miners who witnessed the smelt.—*Western Examiner*, May 31.

WHEAL ELLEN.—The following report has been handed to us for publication:—"The operations here are for the present limited to the working of the copper in Spence's shaft. The stopes above the 30 are yielding 4 tons of 20 per cent. ore per fm. The winze in the bottom of the 30 is yielding 2 tons of 20 per cent. ore per fm. The blast-furnace has been engaged during the last month in smelting lead ore, and a shipment of pig-lead is on the point of being made."—*South Australia Register*, May 2[illegible]

FOREIGN MINE.

ST. JOHN DEL REY MINING COMPANY (Limited).—Advices from Brazil received August 6.

Morro Velho, June 28.—MINE.—During the past two weeks we have experienced the effects of the Corpus Christi and Midsummer holiday, St. John's Day. The former was kept at Sabara, and as the cavalry and infantry were summoned to attend the procession there, it caused more than two days' cessation from work of our Brazilian borers, mechanics, and labourers, in the week in which that holiday occurred. It was kept on the 19th, and as St. John's Day was the 24th (which, also, is generally observed), we had some difficulty in providing the requisite supply of stone for the stamps' consumption. We have now passed the holidays, and the native force is again steadily at work in good numbers. The stamps have been kept thoroughly employed, and have been driven at full rates, though the stock of stone on the spalling-floors has been scanty, and only sufficient from day to day for the actual demands of the stamps. The stock previously acquired in the passes, enabled us to continue to reject the killas received from the mines, we were under the necessity of drawing on our timber force in order to carry on the necessary quarrying operations. All our operations are now in regular course, and good duty is being done throughout the mines.

REDUCTION DEPARTMENT.—The supply of water has been good, and the stamps and machinery have been kept at their maximum rates. The picking out and rejection of unproductive stone on the spalling-floors have been as carefully effected as the limited daily stock on the floors would admit of. The spalling has been about the average and the duty done has been fair. An additional amalgamation barrel has been completed, put up, and connected with the others, making in all now sixteen barrels, thereby affording increased barrel space to the extent of 25 per cent. on the former number. From the increased quantity of sand now brought under treatment, all the barrels are kept fully employed, subjecting a larger proportion of the stamps' sand to the process of amalgamation, we have found has produced an increased recovery of the gold contents, and hence the augmented machinery here referred to has been provided and brought into use.

PRAIA.—These works have been fully kept employed in the re-treatment of the sands chiefly with hard stone and killas from Morro Velho. In taking the best of the stone from the general heap, in which the soft and injurious killas preponderates, the latter becomes inconvenient, and to a certain extent prevents the best stone from being accessible. When the tramway to the Praia is completed, we shall there have a suitable deposit place to which this worthless killas will be conveyed, to the very great relief of the works at Morro Velho, as well as the more advantageous supply of the Praia stamps.

GOLD EXTRACTED TO DATE.—The produce of the stamps for the second division of June, being a period of eleven days, is as follows:—

	Oitavas.	Tons stone.	Oits. per ton.
From General stamps	8,018	.....from 1286·4 =	6·232
,, Herring (East Bahu)	3,096	..... 346·4 =	8·937
,, Lyon (W. & Mid. Cach.)....	3,263	..... 413·6 =	7·889
Total	14,377	2046·4 =	7·025.

The above return is better than was obtained during the first division of the month, both as regards the daily produce and the yield of ore per ton treated. In both divisions the stopes in the East Bahu have not been in the richest portions; and the stope west of the sump has been passing through the part where there is a tongue of killas in the lode, and is the least rich portion in that locality. The Middle and West Cachoeira yield and the yield from the general stamps, are both better than was extracted during the first division. The quantity of sand amalgamated is more than the first 11 days, and the yield per cubic foot is 15·76 oitavas per cubic foot, which is about a fair yield at present.

Advices received Aug. 20, ex steamer *Navarre, via* Bordeaux.

Morro Velho, July 17.—The gold return for the month of June is not nearly so good as was obtained in May. The produce for June amounts to 43,660 oits., and has been derived as follows:—

	Oits.	Tons stone.	Oits. p. ton.
From General stamps	22,239	..from 3516·8 =	6·232
,, Herring (East Bahu).....	8,444	..... 970·4 =	8·701
,, Lyon (Mid. and West Cachoeira). ..	8,423	..... 1069·6 =	7·874
,, Arrastres	2,436	..... —	=0·438
	41,542	5556·8	7·475
Praia (stamps and arrastres)	2,118		
Total produce	43,660		

On comparing the above return with that of May, it will be seen that the yield from the general stamps ore, and that from the Middle and West Cachoeira, treated in the Lyon stamps, are nearly the same proportions from the ore reduced, and that the decreased return has mainly arisen in the ore from the East Bahu, treated in the Herring's stamps. In May the latter section gave a yield of 10·110 oits. per ton, whereas in June it is only 8·701 oits. During the past month we have not had any ore from the Bahu sump—as will be explained elsewhere in another part of this note—nor have we had much from the eastern part of the sump. The first stope westward of the sump has not gone sufficiently far to admit of another being commenced, so that during June we have not had the ordinary monthly proportion of ore from the sump section of the East Bahu, and hence we have not had so good produce as was obtained in May from this section of the mine. The standard yield from the whole ore treated in May was 7·945 oits., and for June it is 7·475 oits. per ton. Besides this, the supply of stone from the mines was not so good or large in June as it was in May. The month of June had five Sundays and one general holiday, and, therefore, had only 24 working days, while May had 27; we had not, in consequence, so good a general supply of stone from the mines in June as we had in May. The yield from the ore treated may be considered fair, and the unrecovered gold contents is favourable—viz., 29·20 per cent.

COST AND PROFIT.—Produce for June is .... 43,660 oits.
Less loss in melting ..... 223 oits.

Leaving	43,437 oits., at 7s. 7d. per oit.	£16,469 17
The cost for June is Rs. 85,988 $391, exchange, 2s. 2d.		9,315 8
Thereby leaving a profit of		£ 7,154 9

The rate of exchange being 2s. 2d. is unfavourable, but the cost for the month is, in proportion to the number of days, less than in May. Materials and provisions amount to about the same, but wages for labour is rather less. Prices, on the whole, have been moderate, and supplies of every requisite good and sufficient. Both the produce and profit are larger than was obtained in May, 1861.

REDUCTION DEPARTMENT.—The duty performed in this department may be seen from the following:—Stamps working 30 days, average 131·68 heads; stamps working 13 heads, average 29·30 days; arrastres worked each, average 26·50 days; arrastres produce per diem, each 5·745 oits.; arrastres produce on that of stamps, 6·22 per cent.; stamp head each produce per diem, 9·886 oits. The quantity of ore reduced 5556·8 tons; the killas rejected, 1832·8 tons. The quantity of sand amalgamated is 2768 cubic feet, which yielded an average of 15·00 oits. per cubic foot. There has not been so much sand caught in June as in May from the stamps, but there has been more caught and treated from the arrastres, from which it may be seen that we have obtained a larger produce than in any previous month. This is attributable to catching more of the fine sand from the arrastres, and subjecting it to amalgamation, without the plan previously in use of concentration. There is reason to conclude that some of the fine gold is lost in concentration, as the result of this experiment tends so far to establish. The plan will be continued which has been in operation during the past month, and extended in its application, so long as it is found to be profitable. The general duty of the stamps is not quite so large as it was in May, though the supply of water for June has been good, and equal to drive the machinery at quite average rates of speed. The spalling during the month has been good, but owing to the frequently limited supply of stone from the mines, the picking out of the killas could not be so well or satisfactorily done as if there had been a little stock, or fuller daily quantity to deal with on the spalling-floors. The duty of the departments has been conducted regularly and well, considering the disadvantage of the holidays.

MINE.—The force employed in the mine department during June has given the following averages:—Daily attendance of natives, 300·79; of borers, 260·00; of total force, 791·79. The mine force has not been so large in June as it was in May, chiefly arising from the "Corpus Christi" and Midsummer holidays, and this, coupled with the circumstance of having only 24 as compared with 27 working days in May, did not admit of our having such a good supply of stone quarried or sent to surface. The quantity delivered on the spalling-floors amounted to 8015 mine wagons, being equal to 30·64 wagons per borer employed, which is very good duty, even better than recorded for May. In the Bahu Mine there has not been any sinking done during the month of June, and only a very trifling amount of ore raised from the east of the sump, as may be better seen from the sketch of the spaces worked on and stoped during the month. Although it would augment our produce to sink and stope and drive in the East Bahu, yet it is not considered wise to do so, inasmuch as it would proportionably postpone the period for working both the mines under the drainage of the Cachoeira sump, which can only be accomplished when the latter becomes so much deeper than the Bahu as to admit of this desirable object being effected; therefore, we shall refrain from much sinking in the Bahu Mine. The new construction of timberwork in the wide and lower part of this shaft, I am glad to advise, is very satisfactorily completed. Two strong sollars have been also completed in this part of the mine, and some necessary timberwork higher up in the shaft, besides four new runners put in for strengthening the back pieces upwards. In the Cachoeira Mine the sump has been sunk 5 ft. 6 in. vertically, and the stoping pressed on both east and west of the sump, one cross-piece put in for the extension of the shaft, and one pump and bucket-rod provided and fixed. A good deal of general timberwork in the form of repairs has been accomplished, but the Midsummer holidays impeded and prevented greater progress in this portion of the mine duty. Ten pieces of timber have been put in for supporting the walls, and 17 runners placed for covering stull No. 16, and a pillar of wood commenced in the Middle Cachoeira. The supply of water for driving the machines has been good, and the general work of the departments has been conducted with care and regularity.

WEST QUEBRA PANELLA.—The sump has been sunk 4 ft. vertically, and one new pump-piece provided and fixed. More stone is now being raised from this shaft, and the stoping is being extended westward, increasing the stoping space. The lode continues good, as opened, and the quality of the pyrites quite equal to any yet raised in the same horizon of the other mines.

PRAIA.—The supply of hard material from the bed of the river has been small during the month, the greater part of the stamps having been supplied with the hard killas and quartz carted from Morro Velho.

The stamps produce is 1329 oits.; arrastres, 789 oits.: making a total 2118 oits. This is not so good a return as May gave. The stamps and arrastres have been quite regularly working throughout the month, and the general duty has been carefully performed. The quantity of sand received for re-treatment from Morro Velho has been rather less than usual, so that it became necessary to use some of the old stock for the supply of the stamps.

GOLD EXTRACTED TO DATE.—The produce of the stamps for the first division of July, being a period of eleven days, is as follows:—

	Oitavas.	Tons stone.	Oits. per ton.
From General stamps.....	8281	.....from 1313·6 =	6·304
,, Herring stamps (East Bahu)....	3267	..... 343·2 =	9·519
,, Lyon stamps (M. & W. Cachoeira)	3275	..... 426·4 =	7·680
Total produce.....	14,823	2083·2	7·115

Although the standard yield obtained in the above division from the stamps is not equal to the last obtained in June, it is better than the first two divisions of that month returned, and it is the best yield from the last four of the East Bahu ore. At present the supply of stone from the mine is good, and the native force sufficient to keep it up for the requirements of the stamps. The supply of water continues good, and the machinery is being driven at full rates of speed, without any unusual stoppages, excepting for very essential repairs.

SOUTH GORLAND MINE.

Conducted upon the "COST-BOOK SYSTEM," as recognised by the Stannaries of Cornwall and Devon.

Consisting of 2000 shares.

Held under leases from the Marquis of Chandos and Charles Trelawny, Esq., at 1-18th royalty.

SECRETARY—Mr. John Hoyle.

LONDON OFFICES,—14, CORNHILL, E.C.

Messrs. Tredinnick and Co., of 78, Lombard-street, have received instructions to dispose of 400 shares, at £5 each; 20s. payable upon application, and £4 upon transfer of shares.

The company's grant is situate in the parish of Gwennap, and embraces several lodes of acknowledged worth. The 40 and 50 fm. levels are being extended westward into virgin ground, and the prospects of early success are decidedly good.

The following is an extract from the last report of Capt. Wm. Rutter, jun.:—"The end of the 40 fm. level is now 75 fms. west from the engine-shaft. The lode for the last 40 fms. driven through has produced some rich copper ore, and has gradually improved in size from the commencement, both in width and quality. In the end it is now 5 feet wide, with a branch on the north side, producing grey ore and malleable copper, and on the south side of the end another branch, or leading part, about 1 ft. in width, composed of blende and grey copper ore, and friable spar. To the west of the 40 end the lode is intersected by a cross-course and a contra lode. At these junctions it is highly probable that a valuable deposit of mineral will be discovered; and I think that the improvement in the lode in the 40 fm. level, as it is being extended west, has been caused by the influence of these intersections, and should it continue to increase in value as it has done for some fathoms past we shall in a short time be in a position to raise ore for the market, and at the same time lay open a profitable mine."

The first mining district in the world, both for copper and tin, but chiefly the former, is that which stretches from Camborne to Gwennap, embracing the three parishes of Illogan, Redruth, and Wendron, comprising an area of six miles in length by four miles in width, the strata, granite and killas (or clay-slate), being most uneven in their formation; in places the granite crops out to a considerable elevation, whilst at others it is of very many fathoms below the level of the sea. Copper and tin have been found abundantly in both, but the larger and more profitable deposits are embedded in the killas, which, indeed, would appear essential to the existence of copper, as no profitable vein of that metal has yet been discovered so distant as three miles from it; the country is subject to frequent interruptions and hard heads of ground, which generally run in a northerly direction. Ironstone is also very prevalent, especially in the killas or clay-slate, whilst numerous cross-courses and elvans traverse both, the former usually east and south, and the latter east and west; the clay-slate varies in depth from a few fathoms to upwards of 200 fathoms, and our forefathers were the first to mine in it for that hidden wealth which every day continues to disclose. It is softer in its nature, and more easy to explore. The veins which produce the ore vary in each instance, both in thickness and direction, being denominated east and west and caunter lodes.

The whole district possesses innumerable peculiarities and characteristics, and until a few years ago was very imperfectly understood by the best of our practical miners, hence the loss and disappointment that formerly arose to those who embarked in such ventures. The aid of science and experience has done much to avoid those errors for the future, and we believe that no further exercise of caution and judgment is now necessary in mining than in the ordinary affairs of life. Capitalists should embark their money in dividend mines or sound progressive ones, or else they deserve to lose it; it is no use mining without the elements of success, and we would rather possess the substance than the shadow, hence we prefer this district to any other in Cornwall or Devon, knowing well that many mines therein have paid in bi-monthly dividends hundreds—nay, thousands—per cent. in a few years upon the outlay incurred; whilst the few progressive ones now remaining in the district will probably hereafter pay equally well. We therefore call attention to South Gorland as holding forth very unusual chances of success at the present prices of shares, even without the risks attending speculative investments generally, and with instances of profits unprecedented in any other description of property, from mines immediately surrounding. We also affirm that the chief dividend paying mines of Cornwall are more desirable than banks or railway shares for investment of capital, whilst the latter incur far greater risks, and pay less than 25 per cent. of the interest derived from mines, on the principal invested; for 15 to 20, and even 25 to 30, per cent. annually can be secured upon well-conducted and established Cornish and Devon copper and tin mines upon current prices of shares.

Subjoined are the statistics of a few mines situate in the same locality:—

Mines.	Amount paid in dividends prior to end of 1845.	1846.	1847.	1848.	1849.	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.	1860.	1861.	Total amount for 16 years.	Aggregate outlay.	Market value this day.
Basset	£ 35,840	£ 1,280	£ —	£ —	£ —	£ 14,080	£ —	£ —	£ —	£ —	£ —	£ —	£ —	£ —	£ —	£ —	£ —	£ 51,200	£ 2,694	£ 46,080
Carn Brea	104,507	12,000	30,000	14,000	15,000	13,000	9,000	6,000	12,000	4,000	4,000	8,000	6,000	10,000	17,500	14,000	21,489	175,989	15,000	72,000
Dolcoath	158,707	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	200,480
East Crofty	72,815	3,995	1,680	—	—	1,280	—	—	—	—	—	—	—	—	—	—	—	5,275	1,137	3,760
East Pool	29,824	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	merged.
Great Consols	28,508	4,550	—	—	—	960	—	—	—	—	—	—	—	—	—	—	—	5,510	5,980	18,900
North Roskear	81,700	8,910	11,880	1,820	1,864	600	300	600	3,000	600	1,200	2,400	1,200	4,500	6,000	1,500	4,500	50,874	20,300	52,470
Seton	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	64,856	54,560
South Frances	992	711	4,000	8,413	1,000	3,000	1,000	3,150	3,150	480	1,152	4,500	3,000	4,500	6,000	1,500	4,500	41,945	28,714	30,360
Stray Park	1,000	3,000	—	600	2,100	1,000	2,000	—	11,600	800	—	—	—	—	—	—	—	18,500	11,500	60,000
Tincroft	27,000	2,400	9,706	6,704	1,000	2,000	11,750	5,000	7,000	5,500	3,000	800	4,500	6,000	6,000	1,500	4,500	85,850	38,850	64,000	
Tresavean	449,000	1,728	600	1,000	2,100	1,000	1,000	5,000	3,150	11,600	7,000	5,500	4,500	4,500	6,000	1,500	4,500	57,078	6,328	1,860
Trethellan	42,741	2,400	1,968	1,200	1,000	2,500	1,000	4,500	1,000	2,500	1,000	1,000	1,000	1,000	1,000	1,000	1,000	19,168	5,700	8,120
United Mines	438,900	7,500	4,000	1,200	1,000	2,500	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	19,500	1,200	1,200
North Pool	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,200	suspended.
Treleigh Consols	35,840	1,280	—	1,280	6,400	—	—	—	—	—	—	—	—	—	—	—	—	7,680	2,694	46,080
Buller	104,507	12,000	30,000	14,000	15,000	13,000	9,000	6,000	12,000	4,000	4,000	8,000	6,000	10,000	17,500	14,000	21,489	175,989	15,000	72,000
Condurrow	158,707	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	200,480
North Basset	72,815	3,995	1,680	—	—	1,280	—	—	—	—	—	—	—	—	—	—	—	5,275	1,137	3,760
South Tolgus	29,824	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	merged.
Clifford	28,508	4,550	—	—	—	960	—	—	—	—	—	—	—	—	—	—	—	5,510	5,980	18,900
West Basset	81,700	8,910	11,880	1,820	1,864	600	300	600	3,000	600	1,200	2,400	1,200	4,500	6,000	1,500	4,500	50,874	20,300	52,470
West Basset	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	64,856	54,560
West Tolgus	992	711	4,000	8,413	1,000	3,000	1,000	3,150	3,150	480	1,152	4,500	3,000	4,500	6,000	1,500	4,500	41,945	28,714	30,360
Great South Tolgus	1,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11,500	60,000
Grambler and St. Aubyn	27,000	2,400	9,706	6,704	1,000	2,000	11,750	5,000	7,000	5,500	3,000	800	4,500	6,000	6,000	1,500	4,500	85,850	38,850	64,000
Ch. Dy. United	449,000	1,728	600	1,000	2,100	1,000	1,000	5,000	3,150	11,600	7,000	5,500	4,500	4,500	6,000	1,500	4,500	57,078	6,328	1,860
East Tolgus	42,741	2,400	1,968	1,200	1,000	2,500	1,000	4,500	1,000	2,500	1,000	1,000	1,000	1,000	1,000	1,000	1,000	19,168	5,700	8,120
East Basset	438,900	7,500	4,000	1,200	1,000	2,500	1,000	4,500	1,000	2,500	1,000	1,000	1,000	1,000	1,000	1,000	1,000	19,500	1,200	1,200
																				suspended.
																				merged.
																				suspended.

FORM OF APPLICATION.

Messrs. Tredinnick and Co., 78, Lombard-street, London.

GENTLEMEN,—I hereby apply for shares in the South Gorland Mine, and enclose you herewith the sum of £ , being 20s. per share on the full number applied for; and I undertake to pay a further sum of £4 per share on all or any part thereof that may be assigned to me.

Usual signature .....
Name in full, and plainly written .....
Profession or occupation.....
Address in full .....
Date .....

THE GREAT NORTH TOLGUS MINING COMPANY (LIMITED).

Capital £30,000, in 30,000 shares of £1 each.

Deposit, 5s. per share; and the balance, if required, by calls of 2s. 6d. per share, of which 21 days' notice must be given for payment.

JOHN SHIMMIN, Esq., Islington-square, Liverpool (Chairman).

BANKERS—Metropolitan and Provincial Bank, 75, Cornhill, London.

BROKERS—Messrs. St. Alphonse and Halis, 75, Old Broad-street, London.

SOLICITOR—Frederick William Snell, Esq., George-street, Mansion House, City.

OFFICIAL AUDITOR—John Dunbar, Esq. (Public Accountant), 26, Moorgate-street, E.C.

SECRETARY—Mr. Thomas Spargo.

REGISTERED OFFICES.

224 AND 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.

This valuable mine is situate in the parish of Redruth, Cornwall, immediately adjoining to and surrounded by the richest dividend-paying mines in the county. Several rich lodes traverse the entire length of the property, and the great cross-course that has made such immense deposits of ore in Wheal Buller, Wheal Basset, South Frances, and other rich mines of the district, intersects the whole of the lodes in the sett.

The geological position of this mine is everything that can be desired, and the indications are exceedingly good; a lode of rich ore is opened upon in the bottom of the adit level, and it only requires a short time, with a moderate amount of capital, to bring it into a dividend-paying state.

Upwards of £8000 have already been expended upon the mine, in sinking shafts, driving levels, building houses, and erecting the necessary machinery for the practical development of the property, the whole of which has been purchased by the present company.

The mine has been inspected by some of the first agents in the county of Cornwall, the whole of whom concur in stating it to be a valuable property, and that the proposed capital is sufficient to bring it into a dividend state, whilst a reference to the annexed reports will more fully assert its intrinsic worth.

The operations at the mine will be prosecuted with all practicable speed, by the sinking of the flat-rod shaft upon the course of ore going down in the bottom of the adit level, and sinking the engine-shaft by nine men, so as to intersect the junction of Wheal Parent, north, caunter, and Denner lodes. (See plan and section.)

The peculiar advantages presented by this property are, that it is surrounded by rich mines. The railway passes near the property to the port of Portreath, which is not more than two miles distant. The shares in some of the mines in the same district having advanced to more than £400 premium in two months, it is fully expected within twelve months from present date that these shares will be selling also at a very high premium.

Prospectuses, with forms of application for shares, together with plans and sections of the mine, can be had on application at the offices of the company.

REPORTS.

The engine-shaft has began to sink below the adit; ground favourable for sinking, only 7*l*. 10s. per fm.—a beautiful killas, with veins of spar and prian in abundance. Wheal Parent lode is to be cut in the shaft at the 30. I should advise you to sink 15 fms. below the adit, then drive a cross-cut to prove the value of the lode: this lode in the adit is from 3 to 4 ft. wide—a very promising looking lode, composed of soft sugar-spar and quartz, mundic, prian, and good spots of yellow copper ore. The cross-cut is within 5 or 6 fms. to communicate to the engine-shaft. In the cross-cut driving under the engine-shaft there are small branches or veins, commonly called droppers or feeders of lodes; these branches contain copper, blende, and mundic, with beautiful prian; I should think there was another lode near by. The next lode south of Wheal Parent is Wheal Mar lode. In the adit level, as far as I have seen, this lode varies from 4 to 6 ft. wide, and is composed of spar, prian, blende, peach, mundic, and copper ore of good quality; this lode in the eastern mines has been one of the best lodes in all this district. Your agents informed me that it is their intention to cut down one of the adit shafts for a flat-rod shaft, and sink on the course of this splendid lode; you must expect this lode to do more for you than any other in the sett, as this is the main lode in the mine. At 40 or 50 fms. to the west of engine-shaft there is a small cross-course. In the neighbouring mines to the west there has been rich deposits of copper ore, which I firmly believe will be the case in this mine. From 30 to 40 fms. to the west of the above cross-course there is the great cross-course; to the west of this all the mines in this district have made the greatest part of their riches. The Old Tolgus, South Tolgus, the Great South Tolgus, East Basset, Copper Hill, and Wheal Buller made all their riches to the south of the above mine in similar stratum of killas. There is no doubt but this mine will prove equally as productive as those alluded to, if carried out properly. I would recommend you to commence operations on Wheal Mary lode at once, as this lode has proved the salvation of the mines to the east in the Old Wheal Mary, Treleigh, North Downs, Wheal Rose, and Halenbeagle Mines. This lode has been worked on four miles in length, and has been one of the best in the district.

THOMAS DELBRIDGE.

Agreeably to your request, I have carefully inspected your most valuable property, and beg to hand you the particulars of the same. I descended from surface through a footway at a depth of 24 fms., which is the present adit; from thence I passed through a cross-cut north 6 fathoms, which brought me to North Downs, or Wheal Mary champion lode. From the appearance of this lode in the back, and more especially in the bottom of the level, there must certainly have been a great quantity of ores removed. In going east of the cross-cut the lode varies from 1 to 6 ft. wide a distance of 30 fathoms. West of cross-cut, close to Derrick shaft, the lode was 3 feet wide, and must certainly has been a large course of rich copper ore, as a former company let it at 7d. in 1*l*. This level is extended within 60 fathoms of the great cross-course which proved so productive throughout the whole of this important mining district. From Derrick shaft I again passed through a cross-cut north 12 fathoms, which intersected the engine lode. It is 18 in. wide, and laid open for about 30 fathoms. This lode at the present depth is highly mineralised throughout, producing good stones of copper ore, with blende and mundic. I would also remark, that further north two strong and masterly lodes exist, bearing the same promising appearance as those which I have laid before you, and as the underlie of the three north lodes must certainly form a junction about the 80, combined with the assistance of a beautiful elvan, and the large cross-course not far to the west, I hesitate not in saying that you have a most valuable property in the Great North Tolgus.

WILLIAM GILBERT.

The Great North Tolgus Mine is situated in the highly-productive district of Redruth, is bounded on the east by the old Wheal Mary and North Downs Mines, and on the west by the Setons, whose lodes pass through the sett. The sett is very extensive, being three-quarters of a mile upon the course of the lodes, of which there are three that have been worked upon by former parties at a shallow depth, and two upon which nothing has been done, with the exception of cross-cutting pits. An adit has been brought up from the eastern boundary, on the Wheal Mary lode, for 150 fms. in length, at which place a cross-cut is driven north to the Wheal Parent lode, proving them to a depth of 24 fms. from surface. Several tons of copper ore of good quality have been broken and sold from the back of the adit by the present company, and a good run of ore ground is gone down in the bottom of the adit, specimens from which are to be seen upon the mine. The stratum is all that can be desired, and the lodes are of a masterly character, and will, no doubt, make large quantities of ore in depth. The engine-shaft should be sunk by nine men, with the intention of intersecting the Wheal Parent lode at the 30; this shaft is now 17 fms. below the adit, and 41 fms. from surface, and, judging from the character of the lodes at the adit, you may fully expect some ore of value very shortly. An engine of 45-in. cylinder is erected, which is of sufficient power to prove the mine to a great depth. There is an account-house, smith's and carpenter's shop, store rooms, &c., and an efficient and well laid out plant. From the nature and character of the lodes, and the country in which they are imbedded, together with the rich locality in which the mine is situate, I think we are fully justified in expecting a great and lasting mine.

JOHN DALE.

I send a transverse section and a rough surface plan of the Great North Tolgus. The former will serve to make plain my remarks in a previous letter, as regards the points of intersection of the lodes and elvan-course; the latter will give you some idea of the relative situation of the cross-courses, engine-shaft, &c., and their distances. There is one thing that I omitted in my last letter, and that is, the lode which rides the elvan, and on which ore has been raised at the adit level by a former company (I think Capt. Tregune), and indeed I did not know of its existence till very recently, but I find it has been driven upon at the adit level a few fathoms, where they had a bunch of ore; very little, however, had been done on it. You can easily see the character of this adventure, and I must confess it is a most kindly one. From the bottom of the flat-rod or footway shaft to the point of intersection is a most kindly piece of ground, and will do well, especially at and about that point. Old Treleigh made rich about the same elvan, and unquestionably on the same lode. There is ore now in the bottom of the flat-rod shaft, and they have had ore for some fathoms above it. No doubt as the elvan is neared the lode will improve, and at the junction of the two lodes and elvan the mine is likely to be very good. The engine-shaft will have to be sunk some fathoms before the lode will come into the shaft, after which I suppose they will sink on the course of it. There is a point (I mean the junction of Denner caunter and north lodes with Wheal Parent lodes) that will require time to reach, and after all may be of secondary consideration. You will see by the plan the piece of ground I alluded to in my last between the cross-courses. I call this part of the sett deserving attention more than any other—my reasons for so thinking I have already given. You have now every information that I can give, and I think you must agree with me that Great North Tolgus contains the elements of success, and cannot fail to be very rich.

WM. BRENTON.

I have inspected this interesting property, and the following is my report:—I find a good and capacious engine-shaft sunk 41 fms. below the surface, being 17 fms. under the adit level, cased and divided, and ladder-road fixed to within 2 fms. of the present bottom, or as deep as the 15 fm. level. The ground in the shaft is comparatively easy, and such as nine men should sink 4 fms. per month through, and its character for the production of mineral in the lode is, to my mind, all that need be desired; indeed, its capability to produce and sustain mineral is manifestly observable at this moment, from the fact of there being a fissure or branch running obliquely through it, bearing good copper ore, which I consider of importance, as showing its mineral-bearing nature; and this circumstance strengthens the probability of Wheal Parent lode being found productive at or near the point of intersection by the cross-cut now being put out to cut it at the 15 fm. level, below the adit. I would further observe, in reference to the fissure or branch, that it falls in or forms with the lode at a short distance of the point of intersection by the cross-cut named above, and its coming in as it does from a north-westerly direction, considered in connection with other features presented in the stratum and lode, will, I believe, be found to have a most beneficial influence on the lode in question at the point named. It seems that by continuing to sink the shaft 13 fms. deeper, or to 30 fathoms under the adit, the Wheal Parent lode will fall into it, which, except the time that would be required for fixing the necessary pitwork, is a question of about four months' time. This circumstance is of great importance, and one which, I think, should be borne in mind while urging on the shaft by all exertion that can be brought to bear upon it; for if the lode be found productive, and to assist in paying the expenses of the mine at the 15, it will only be one point opened on the lode, and, therefore, large returns could not be expected; but as soon as the lode is reached at the 30, the mine on this lode would quickly be opened to a considerable extent, while the shaft should be continued on the course of the lode to deeper points. I have a good opinion of Wheal Parent lode being found productive from its appearance in the adit, in connection with other features, and I think the 15 cross-cut should be urged on as fast as possible, as with perseverance the lode may be reached in one month from this time, as the ground is good (price 90s. per fm.), and no hindrance need take place, nor should. The point at which the Wheal Parent lode forms a junction with the north lodes underlying south, although at some distance in time, being, it seems, some 70 fms. below the adit; but if the former lode be found productive, as I believe it will, it will be pleasant to look forward to the 70, where the junction will take place. The Wheal Mary lode is quite a separate part of the mine, being some 20 fathoms to the south of the engine-shaft, and the lode underlying south; consequently, it will ever be impracticable to work it from the engine-shaft. It is intended, therefore, to throw our rods from the engine to this shaft on the lode, and hence its name—viz., the flat-rod shaft. This shaft is cut down, timbered, and ready to receive the pitwork. There is a good lode in the bottom of the shaft, producing blocks of copper ore of a rich quality. I would urge upon the company the necessity of sinking the shafts with all the speed possible, as I am fully convinced that a short time will bring the property into a profitable state.

R. WILLIAMS.

FORM OF APPLICATION FOR SHARES.

To be delivered entire either to the bankers or secretary of the company, accompanied by the amount of deposit.

To the Directors of the Great North Tolgus Mining Company (Limited).

GENTLEMEN,—Having paid to the sum of , being the amount of deposit of 5s. per share upon shares of £1 each in the Great North Tolgus Mining Company (Limited), I request you will allot me that number of shares, and I hereby agree to accept such shares, or any less number that you may appropriate me, subject to the regulations and Articles of Association of the said company.

Name in full .....
Occupation.....
Address in full .....
Usual signature .....

Dated day of , 1862.

DEPOSIT RECEIPT.

To be retained by applicant, and delivered up in exchange for share certificate.

Received of Mr. , on account of the Great North Tolgus Mining Company (Limited), the sum of £ , being the deposit of 5s. per share upon shares in the said company.

For the Metropolitan and Provincial Bank,

£ : :

N.B.—All cheques to be crossed "Metropolitan Bank."

WEST PENSTRUTHAL MINING COMPANY.

Conducted upon the "COST-BOOK SYSTEM,"

Consisting of 1024 shares.

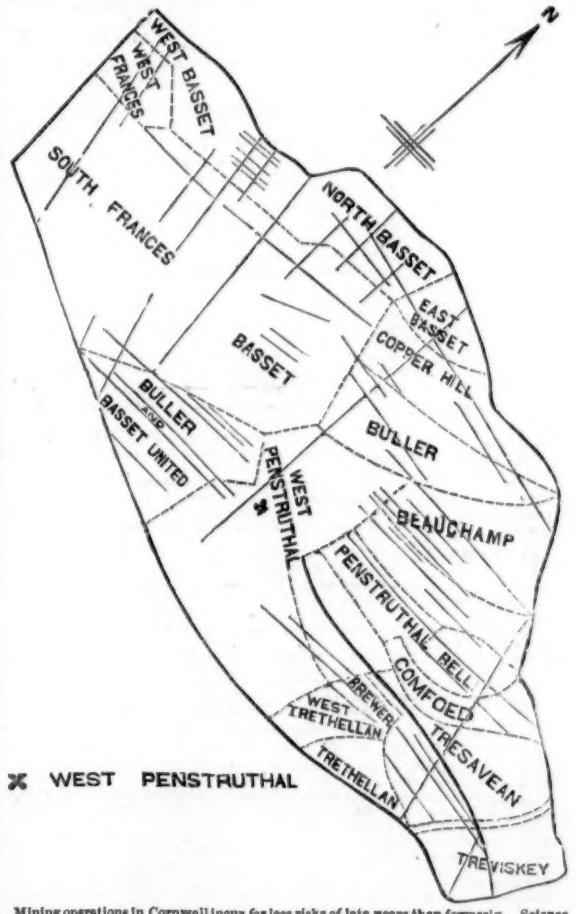
SECRETARY—Mr. John Hoyle.

LONDON OFFICES,—14, CORNHILL, E.C.

Messrs. Tredinnick and Co., of 78, Lombard-street, have received instructions to dispose of 200 shares at £7 10s. each, 10s. payable upon application, and £7 upon transfer of shares.

The company's grant is held under leases from D. Boger, Esq., S. Usticke, Esq., and the Rev. H. M. St. Aubyn, at 1-18th royalty.

The subjoined plan will show the position of West Penstruthal Mine in reference to others of vast and acknowledged wealth—namely, Penstruthal returned upwards of £200,000 worth of copper ores; Comfort, Bell, and Beauchamp largely. Buller, upon an outlay of £1280, has given £237,884 profits, and at one time sold for £300,000. Tresavean, upon an outlay of £32 10s. per share, returned profits of £449,040, and sold at one time for £2700 per share. Brewer, West Trethellan, and Trethallan, upon trifling outlays, realised £200,000 worth of copper ores, and £80,000 profits. Treviskey was also exceedingly rich, and gave large profits. Copper Hill is selling for £85 per share, 100 per cent. premium, and is declaring handsome dividends. East Basset at one time sold for £100,000, and North Basset £250,000, and the expenditure upon both mines amount only to £27,104. The Basset Mine, £2624 paid up, has declared dividends of £299,520, and at one time sold at £400 per share. West Basset sold at £200,000, but at present is reduced in value to £75,000. The shares, 6000 in number, £1 10s. paid up, command a market price of 12½, whilst the aggregate dividends have been £22 12s. per share, or £135,600 up to the present date. South Frances also has been one of our best mines, and is again improving in yields and prospects. The shares, 496 in number, £18 18s. 9d. paid up, sell at £110 per share—pay regularly two-monthly dividends, amounting in the whole to £360 5s. per share.



Mining operations in Cornwall incur far less risks of late years than formerly. Science and investigation have thrown great light upon the phenomena of lodes, strata, and the influence of north and south cross-courses, elvans, and crystallisation in the formation and collection of profitable deposits of ores, hence ample proof can be adduced that mining enterprise can be conducted with as much certainty of success as any other speculative medium for the legitimate absorption of capital, as for instance Joint-Stock Banks, Railways, Insurance, Canals, Docks, or other Joint-Stock undertakings.

The West Penstruthal Mine possesses all the elements essential to success, and the works will be carried out with practical spirit and economy. The 200 shares now offered to the public at £7 10s. each, must be regarded as a favourable opportunity for investment.

FORM OF APPLICATION.

Messrs. Tredinnick and Co., 78, Lombard-street, London.

GENTLEMEN,—I hereby apply for shares in the West Penstruthal Mine, and enclose you herewith the sum of £ , being 10s. per share on the full number applied for; and I undertake to pay a further sum of 7*l*. per share on all or any part thereof that may be assigned to me.

Usual Signature .....
Name in full, and plainly written .....
Profession or occupation.....
Address in full .....
Date .....

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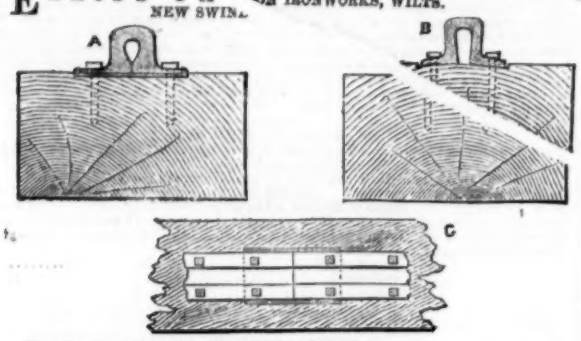

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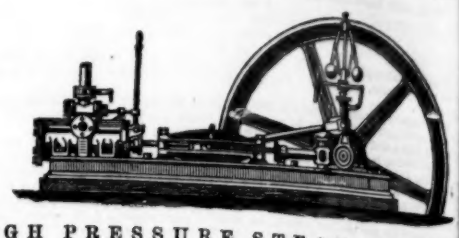

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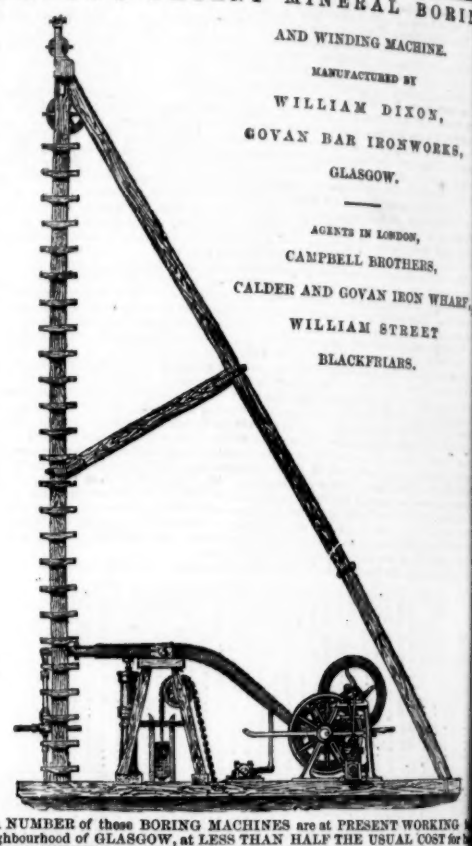

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